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ABSTRACT

The relationship between vocabulary development with comprehension and the reading process has been carefully studied and clarified--but little research has been conducted into the vocabulary demands of the academic disciplines. In spite of this, many colleges have devised courses in content area vocabulary development, even though the relevance and transfer effects of such courses have not been verified. In addition, most vocabulary textbooks seem to emphasize a structural analysis approach to vocabulary and if they include references to content area vocabulary at all, these references are haphazard. To remedy this problem, a data collecting process was developed at California State University (Fullerton), where approximately 600 students are enrolled each semester in developmental vocabulary courses. Each semester, these students select words used in their academic courses. To date, these data include roughly 3,000 entries, which have been coded and categorized according to a number of criteria. The data are now available for use in vocabulary classes for relevant study and as a service to various departments on the campus. (FL)

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The Specific Vocabulary Needs of Academic Disciplines

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April, 1981
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April, 1981

THE SPECIFIC VOCABULARY NEEDS OF ACADEMIC DISCIPLINES

ABSTRACT

The relationship between vocabulary development/comprehension and the reading process has been clearly studied and clarified. But the field of reading has not fully researched the vocabulary demands of the academic disciplines. Yet many programs have developed courses in vocabulary development which include components such as vocabulary in business, humanities, engineering, etc., even though the relevance and/or transfer effect have not been verified. In addition, most of the current textbooks seem to be emphasizing a structural analysis approach to vocabulary and if they include references to various academic areas, these references are haphazard with no rationale for their inclusion in the text(s).

Based on this need to make vocabulary content more relevant and reflect student needs as well as begin to focus on the various academic disciplines, a process for collecting this data was developed at California State University, Fullerton. There are approximately 600 students enrolled in developmental (not remedial) vocabulary courses each semester. These students select words that they need to internalize from their various academic areas. This data includes roughly 3,000 entries to date which have been coded and categorized according to reason for selection, major, year in school, etc. This data can be incorporated in vocabulary classes for relevant student study and can be used as a service to departments on a campus. Indeed, it provides a myriad of suggestions for the direction of future textbooks in reading and learning at the postsecondary level.

Specific Vocabulary Needs of Academic Disciplines

The role of vocabulary development in reading has changed in an interesting fashion over the past hundred and fifty years. Early materials which intended to teach the reading process as well as to furnish the reader with information necessary to function in the world gave little thought to word control. Primary consideration was given to content. The best (and best known) example of this was the McGuffey Eclectic Reader which first appeared in 1836 (7).

But as educational theory changed, so did the approach to vocabulary in reading. Students were taught to read using strictly controlled vocabularies and were advanced carefully along an established continuum until they had mastered a sufficient number of words and word analysis skills to "unlock" any text presented (11). A remnant of this approach at the elementary level is the two hundred twenty word Dolch list.

More recently developed theories see vocabulary development in reading as dependent upon the reader's familiarity with the subject matter and his pre-existing oral language (4). Vocabulary then, need not be strictly controlled as long as it is representative of the language patterns possessed by the reader and is concerned with events and ideas with which he is acquainted. Once again, content is an essential element, although at this end of the period theory has it that the reader controls the material through his past experience rather than being controlled by its didactic message.

Theoretical differences aside, the demands on the student reader are real and awesome. With an estimated 600,000 words in the English language the student must progress from the average 2,000 to 3,000 word vocabulary he has at school entry to a use vocabulary of approximately 30,000 words when he exits college. The sooner he develops his expanded vocabulary the better he will function in school and the more specific it is to the various academic disciplines

the better his mastery of those disciplines will be. Knowledge of words leads him to and helps him display his knowledge of concepts.

Traditionally, vocabulary control to lead students to this desired level of success has been external. Glossaries (word lists at beginning levels) are supplied by experts in the fields and students are expected to learn the words. Often pre and post tests are administered to measure gains. The approach is that of "we know what you need to know." Textbooks use this same approach with the material and format responsive to the needs of the disciplines rather than to the needs of the readers, despite suggestions from educators (5). Rarely has the approach been internal or student centered. One exception was the student centered teaching of Sylvia Ashton-Warner (1) but even those who heeded her message applied it only to young learners.

Every learner, of course, is a "young learner" when he is faced with new material. If it is too different from any experience he has had or any knowledge he has previously acquired, he will learn it with difficulty, if he learns it at all. To be most efficient, he must expand his knowledge, formulate his concepts, develop his vocabulary in a way that is unique to his own needs. Pauk (8) speaks of this unique void which must be filled by the learner and refers to it as the "twilight zone."

Within the twilight zone are those words that the student often encounters but does not know. With minimal effort these words can become part of his recognition vocabulary since their meanings will be continually reinforced. However, beyond this gray area would be the dark: those words which are seen or heard so seldom that trying to learn them is futile. But as the learner focuses on his own gray area it gradually becomes bright, i.e. known, and he is free to concentrate on another gray area.

Research on vocabulary of academic disciplines

There have been very few attempts to research the vocabulary of the various academic disciplines (2,3,10). Although many disciplines have developed dictionaries of terms appropriate to that discipline no large scale attempts have been made to identify the core vocabulary from the textual material in postsecondary education.

And the field of reading has not fully researched the vocabulary demands of the academic discipline although there is a growing body of research in the area of textual analysis and textual structure (5,9).

Yet many programs have developed courses in vocabulary development which include components such as vocabulary in business, humanities, science, etc., even though the relevance and/or transfer effect have not been verified. In addition, most of the current vocabulary textbocks seem to be emphasizing a structural analysis approach to vocabulary and if they include references to various academic areas, these references are haphazard with a rationale for their conclusion in the text (s).

Process to determine relevant vocabulary

A process which epitomizes the learning that takes place in the personally experienced gray area utilizes no predetermined word lists, no pre and post tests, no programmed text. Words are selected by the student from material, both writtten and spoken, in the academic area he is studying. Those words are recorded in the original context, given dictionary definitions, and reused in a student created context. Finally, several words are combined into an essay to permit juxtaposition of related concepts. Each student works on words that he needs for his personal achievement in an academic area he is studying. As he focuses on the meanings of the words he practices writing out his ideas concerning the field. Whether his essay is long or short depends upon the words selected and the constraints of the discipline. For example, a geology student could write a short essay containing numerous specific words referring

to plate tectonic theory while a philosophy student would require a more lengthly essay to use the vocabulary specific to the philosophy of Jean Paul Sartre. Each student selects the words he needs to know and writes out what he needs to say to amplify his topic.

The responsibility of the teacher in such an individualized program is to encourage and to guide the student into those areas which will be most useful to him, to provide a format for recording selected material and to supply feedback on the written work. While the reading teacher cannot hope to be an expert on the pedagogy of each academic area he can still supply sufficient feedback to improve the student's vocabulary and writing skills: words must be used as they are defined; sentences must be grammatically correct; paragraphs must contain main ideas and supporting details.

One serendipitous reward resulting from this method is the often expressed gratitude of the students. Learning which is personalized is meaningful and gains are noticeable. In addition, both the specific learning and learning process are transferable to other areas. Work in the gray areas can make life bright for student and teacher alike.

Such a process for collecting relevant discipline vocabulary was developed at California State University, Fullerton. There are approximately 600 students enrolled in developmental (not remedial) vocabulary courses each semester. These students select words that they need to internalize from their various academic areas. This data includes roughly 3,000 entries to date which have been coded and categorized according to reason for selection, major field of study, year in school and age.

Results of data collection

This preliminary study in the area of descriptive research (6) has resulted in the identification of relevant academic discipline vocabulary for majors on the California State University, Fullerton, campus. The fields of Business Administration, Economics, Communications, Human Services, Criminal Justice and Political

Science were the areas most frequently identified by students. Examples of student generated vocabulary from these disciplines are as follows:

BUSINESS ADMINISTRATION

analog
artifice
abstruse
aggregate
consolidate
devaluate
diligent
demarcation
debenture
margin
Malthusian
pathogenic
parity
pervasive
pecuniary

COMMUNICATIONS

collotype
chromatic
collodion
heliography
postvisualization
parallax
photogram

ART

corporeality
megalithic
monochromatic
pejorative
paladin
puerile
paroxysm

MATH

composite
corollary
converge
conditional
domain
divergence
heuristic
parametirc
permutation

PHYSICS

coefficient
component
distortion
dynamics
heliocentric
magnitude
momentum

HUMAN SERVICES

catharsis
catatonia
coercive
cognitive
contingency
conceptualizations
dysfunction
diastase
mania
mitosis
psychosis
paradigms
phenomenological

CRIMINAL JUSTICE

adversary
affidavits
allocution
capricious
delineate
disparity
denigrate
prowess
prima facie
promulgate

ANTHROPOLOGY

caste
chieftains
cuneiform
cannibalism
commercialization
dowries
matrilineal
monogenesis
unilinear

POLITICAL SCIENCE

capitulation
cataclysm
despotism
hegemony
moratorium
machination
perdition
paternalism

Now that the process and computer program have been developed and refined, an additional 5,000 entries are available to be evaluated. This preliminary investigation has yielded a future direction for determining relevant vocabulary of academic disciplines.

Implementation in programs or learning centers

This data provides not only a myriad of suggestions for the direction of future textbooks in vocabulary development and reading at the postsecondary level but also additional references for immediate classroom use. Ways to utilize this data include academic discipline study groups designed to reinforce the identification and contextual analysis of these words. Students who engage in self-selected vocabulary activities would have this as an additional resource. Campus specific dictionaries can be developed for each discipline and made available for all students in the campus bookstore. Adjunct courses related to these disciplines can utilize the data in their study groups and with the adjunct faculty. Learning centers and/or reading programs can provide these lists as services to departments who indicate an interest. Lastly, they can provide the initial step for new awareness of research in the reading and learning needs of academic disciplines in postsecondary education.